B o n n e v i l l e   P o w e r   A d m i n i s t r a t i o n
P o w e r   B u s i n e s s   L i n e

2003 Safety-Net Cost Recovery Adjustment Clause Final Proposal

Final Study

Chapter 3 – Revenue Recovery

SN-03-FS-BPA-01

June 2003

BONNEVILLE
POWER ADMINISTRATION

CHAPTER 3: REVENUE RECOVERY

3.1 Introduction

3.1.1 Purpose of the Generation Revenue Recovery Study. This Revenue Recovery chapter is a supplement to the Revenue Requirement Study filed by BPA in support of its 2002 wholesale power rates in May 2000. WP-02-FS-BPA-02. The purpose of this chapter is to demonstrate that the revenues from BPA's current wholesale power rates, including LB and FB CRACs, as adjusted by the SN CRAC, are sufficient to recover, in accordance with sound business principles, the Federal Columbia River Power System (FCRPS) costs associated with the production, acquisition, marketing, and conservation of electric power. These costs include: recovery of the Federal investment in hydro generation, fish and wildlife recovery, and conservation; Federal agencies' operations and maintenance (O&M) expenses allocated to power; capitalized contract expenses associated with such non-Federal power suppliers as Energy Northwest; other purchase power expenses, such as short-term power purchases; power marketing expenses; cost of transmission services necessary for the sale and delivery of FCRPS power; and all other generation-related costs incurred by the Administrator pursuant to law. This chapter does not address spending levels or cost recovery for BPA's transmission function.

Typically, BPA conducts a current revenue test to determine whether revenues projected from current rates can meet cost recovery requirements. If the current revenue test indicates that cost recovery and risk mitigation requirements can be met, current rates could be extended. However, the provisions of the SN CRAC specify that it is available to the Administrator to adjust rates if either of the following conditions exist: BPA forecasts a 50 percent or greater probability that it will nonetheless miss its next payment to Treasury or other creditor, or BPA has missed a payment to Treasury or has satisfied its obligation to Treasury but has missed a payment to any other creditor.

The "SN Trigger Case" is the demonstration that the first of these conditions exists. The results of the SN CRAC trigger were presented in a workshop prior to the formal process. *See* SN-03-PR-01. It is, therefore, the forecast of missing a Treasury payment rather than the current revenue test that is prompting this SN-03 process.

The proposed SN CRAC is an adjustment to the current wholesale power rates for the final three years of the rate period, FY 2004-2006. The cost evaluation period, as defined by the Federal Energy Regulatory Commission (FERC), is the period extending from the last year for which historical information is available, through the proposed rate test period. The cost evaluation period for this rate filing includes FY 2003-2006.

This chapter outlines the policies, forecasts, assumptions, and calculations used to revise the total generation expenses included in the revenue requirements for the May 2000 rate filing. BPA is adhering to the planned generation amortization payments included in that filing. Consequently, repayment studies have a diminished role in these proceedings. The documentation for this chapter, SN-03-FS-BPA-02, chapter 3, contains key technical assumptions and calculations, the results of the generation repayment studies, and a further explanation of the repayment program and its outputs. Legal requirements related to revenue requirements are summarized in section 4 of this chapter.

Consistent with RA 6120.2 and the standards applied by FERC on review of BPA's rates, the adequacy of proposed rates must be demonstrated. The revised revenue test demonstrates that projected revenues from the adjusted power rates will meet cost recovery requirements for the remainder of the rate test and repayment period. The revised revenue test is contained in section 3 of this chapter.

Table 3-1 summarizes the revised revenue test and shows projected net revenues from proposed rates over the remaining three years of the five-year rate period.

Table 3-1

PROJECTED NET REVENUES FROM PROPOSED RATES

($000s)

Fiscal Year		**Generation**
2004	Projected Revenues From Proposed Rates	3,024,636
	Projected Expenses	2,856,049
	Net Revenues	**168,587**
2005	Projected Revenues From Proposed Rates	3,001,579
	Projected Expenses	2,915,380
	Net Revenues	**86,199**
2006	Projected Revenues From Proposed Rates	2,977,343
	Projected Expenses	2,902,343
	Net Revenues	**75,000**
Average FYs 2004-2006	Projected Revenues From Proposed Rates	3,001,186
	Projected Expenses	2,891,257
	Net Revenues	**109,929**

Table 3-2 shows planned generation amortization payments to the U.S. Treasury during the rate test period, as filed in the May 2000 Final Proposal Revenue Requirement Study, WP-02-FS-BPA-02.

Table 3-2

PLANNED AMORTIZATION PAYMENTS TO U.S. TREASURY
FY 2004–2006

($000s)

Fiscal Year	Annual Amortization
2004 [1]	$93,024
2005	$148,097
2006	$126,476
Total	$367,597

[1] Includes Irrigation Assistance payment of $739 ($000).

3.1.2 Public Involvement Process. BPA conducted a major public review process to examine BPA's financial challenges and alternatives for addressing them. The objective of the Financial Choices process was to review BPA's expenses and cost structure and consider alternatives including cost cuts and deferrals to close the net revenue gap and reduce the need for an SN CRAC rate adjustment. *See* section 2 of this chapter for a chronology of the spending level development process. The Financial Choices decisions form the basis of the costs in this revenue recovery study. *See* Keep, *et al.*, SN-03-E-BPA-04, at 8, line 23-9, line 4.

The assumptions on fish and wildlife recovery funding levels that resulted during the development of the Fish and Wildlife Funding Principles (Principles), which were included in the May 2000 Final Proposal, have been supplanted by the development of the Action Agency Implementation Plan. *See* Keep, *et al*., SN-03-E-BPA-04, page 11, lines 5-21. The fish and wildlife funding levels reflect both the Plan and recommendations from the Northwest Power Planning Council's (NWPPC) Fish and Wildlife Program.

3.2 Spending Level Development and Financial Policy

3.2.1 Development Process for Spending Levels

3.2.1.1 Spending Levels in the May 2000 Proposal. The development of spending levels reflected in the May 2000 Proposal revenue requirement was largely driven by the Regional Cost Review (Cost Review), a review of FCRPS costs launched jointly in September 1997, by BPA and the Northwest Power Planning Council. The result of the Cost Review was a set of recommendations to reduce the costs of BPA's commercial operations and constrain the costs of its public benefit programs.

The Cost Review was built on the earlier Comprehensive Regional Review (Comprehensive Review), which envisioned a dramatically shrinking role for BPA. Getting BPA's existing system power sold at cost was viewed as a major challenge in a low-price wholesale power market. The intent was to drive costs down and get the entire Federal Base System committed under long-term power sales contracts. This was viewed as the most certain means of achieving the goals of the Comprehensive Review, which were: adding no risk for the U.S. Treasury and third-party bondholders; fulfilling responsibilities for funding fish and wildlife recovery; and retaining the substantial long-term benefits of the FCRPS for the Northwest.

The Cost Review recommendations presumed that keeping the price of the Federal system competitive and covering costs required: an emphasis on cost-minimization over output-maximization in managing generating plants; cutting generation function staffing by more than half by eliminating or nearly eliminating most functions except those required to operate the system; cutting the Northwest Power Planning Council costs by almost 20 percent; cutting conservation spending by almost 30 percent; and cutting a variety of other functions. Both the Comprehensive Review and the Cost Review are described in the May 2000 Revenue Requirement Study, WP-02-FS-BPA-02, chapter 2.

BPA accepted the direction in the Comprehensive Review and adopted the overall cost reduction targets recommended by the Cost Review. Considerable effort and planning took place from 1997 through 1999 to achieve the overall cost reductions defined in the Cost Review, though with a somewhat different mix of actions than specified in the Cost Review. It was recognized at the time that achieving all the cost reductions would be a challenge, and many have not been realized. The Non-Operating Risk Model was used to reflect some probability that some of the reductions would not be achieved, as described in the May 2000 Revenue Requirement Study, WP-02-FS-BPA-02.

From FY 1997-2000, BPA worked to achieve the overall cost reductions defined in the Cost Review. *See* Keep, *et al*, SN-03-E-BPA-11, at 2, line 15, to 4, line 5.

3.2.1.2 Financial Choices. Since the May 2000 Proposal, several factors have placed considerable pressure on BPA’s ability to achieve the Cost Review targets. These include the increased loads BPA’s customers have put on BPA; requiring augmentation of the system to serve the load; the functional split between the Power and Transmission Business Lines in response to FERC’s Standards of Conduct; and the increased complexity and volatility of the energy market. *Id*, at page 4, line 26, to page 6, line 8. Faced with a deterioration of its overall financial condition, BPA sent a letter to rate case parties and other interested entities in the region on July 2, 2002, announcing the beginning of the Financial Choices public comment process. The Financial Choices process described BPA's financial outlook and actions BPA had already taken to address the problem, and examined a variety of potential financial alternatives and program options that, separately or in combination, could form the basis of a solution to PBL's financial situation.

During the course of the process, BPA held ten public meetings and workshops with customers, public interest groups, tribes, and other interested persons to explain the nature of the problem, to show program level costs and the potential effects of cost reductions, and to solicit suggestions to address its growing financial problem. The public comment period closed on September 30, 2002. As a result of the Financial Choices process, BPA made decisions to cut, eliminate, or defer certain costs and expenses. BPA issued a Financial Choices close-out letter to the region on November 22, 2002, outlining BPA's plan, in part, for meeting the PBL's financial challenges. The plan takes into consideration the extensive public input BPA received during the Financial Choices public process. The actions BPA has taken, and will take, as described in the Financial Choices close-out letter, include the identification of $350 million in expense savings, expense deferrals, and other actions for the FY 2003-2006 period. *See* Lefler, *et al*., SN-03-E-BPA-06; Keep, *et al*., SN-03-E-BPA-11, at 10, lines 11-24. These actions were reflected in the program levels in BPA's initial proposal.

BPA has continued to pursue other potential savings and deferrals. BPA's final proposal includes over $80 million in additional net expense reductions, including an additional $36.2 million in reductions in PBL Internal Operations, Corporate G&A, and Shared Services expenses from the initial proposal. Of this $36.2 million, approximately $20 million were cuts inadvertently omitted in the SN CRAC initial proposal. BPA continues to pursue additional cost reductions for the remainder of the rate period.

The Financial Choices process allowed extensive review and comment on PBL's costs. In addition, the decisions made in the Financial Choices process implemented prudent cost management to enhance TPP while minimizing rate impacts. These decisions are reflected in assumptions regarding program spending levels in the SN-03 final proposal.

3.2.1.3 Fish and Wildlife Costs. In BPA's May 2000 Proposal, potential fish and wildlife costs were reflected probabilistically, based on 13 system configuration alternatives arrived at during the development of the Fish and Wildlife Funding Principles (Revenue Requirement Study documentation, Volume 1, WP-02-FS-BPA-02A, chapter 13). These alternatives were developed specifically to inform and guide PBL's Subscription Process and power rate-setting, keeping options open because those processes would be concluded prior to decisions being made on system reconfiguration to aid threatened and endangered salmon.

In December 2000, both the National Marine Fisheries Service (NOAA Fisheries) and U.S. Fish and Wildlife Service (USFWS) issued Biological Opinions on the operation and configuration of the FCRPS, to address threatened and endangered salmon and Endangered Species Act listed sturgeon and bull trout. The Action Agencies (U.S. Army Corps of Engineers (Corps), Bureau of Reclamation (Reclamation), and BPA) released a Final FY 2003-2007 Implementation Plan for the FCRPS on November 6, 2002, that identifies and describes the specific measures that the three agencies plan to implement in FY 2003-2007 and addresses the actions called for in the NOAA Fisheries and FWS 2000 Biological Opinions for the FCRPS. The Implementation Plan forms the basis for fish-related hydro-operations assumptions and spending level assumptions in the initial proposal. *See* Keep, *et al.*, SN-03-E-BPA-04; McNary and Lamb, SN-03-E-BPA-18, at 2, lines 6-24.

BPA's fish and wildlife program spending levels are developed to implement not only the Action Agencies' Implementation Plan, but also a set of operational, habitat, harvest, and hatchery measures to protect, mitigate, and enhance non-ESA listed species affected by the FCRPS. When BPA initiated Financial Choices, fish and wildlife spending levels were presented and comments were taken. Those spending levels, including expenses and capital, are reflected in this proposal.

3.2.2 Capital Funding. FCRPS capital investments include Corps, Reclamation, and BPA capital investments and third-party resource investments for which debt is secured by BPA (capitalized contracts). Current FCRPS capital outlay projections are $1,399 million for the FY 2002-2006 rate period. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3, section 1. These investments include:

- efficiency and reliability improvements and replacements in hydro generation;
- investment in fish and wildlife recovery funded by BPA and by appropriations and implemented by various groups in the Northwest including the Corps and Reclamation. Fish and wildlife investment includes tributary passage, habitat construction, supplementation construction, gas abatement, and mainstem passage; and
- investment in Information Technology (IT) and other capital equipment.

BPA may include capitalization of investment in land acquisition for fish and wildlife, provided such costs exceed $1 million, and such investment provides a creditable/quantifiable benefit against a defined obligation for BPA.

Table 3-3: Sources of Capital, FY 2002-2006
($ in millions)

Investments in fish and wildlife recovery	
Bonds Issued to U.S. Treasury	118
Federal Appropriations [1]	530
	648
Investments in revenue producing assets	
Bonds Issued to U.S. Treasury	537
Federal Appropriations [1]	5
PBL Capital Equipment	64
Capitalized Bond Premium	4
Non-Federal Debt	0
	610
Other	
Conservation Augmentation	141
Total	1,399

[1/] Reflects projected plant-in-service.

This Revenue Recovery analysis does not project that any capital investments will be funded from current revenues.

3.2.2.1 Bonds Issued to the Treasury. Bonds issued to Treasury will be used to finance FY 2002-2006 BPA capital program investments and Corps and Reclamation investments that BPA has agreed to direct-fund under P.L. No. 102-486. These expenditures include a projected $655 million: $118 million in BPA Fish and Wildlife Program investments, and $537 million in generating resource investments of the Corps and Reclamation. Projections for Conservation

Augmentation are $141 million, $64 million for PBL Capital Equipment, and $4 million for Capitalized Bond Premiums.

Interest rates on bonds issued by BPA to the U.S. Treasury are set at market interest rates comparable to securities issued by other agencies of the U.S. Government. Interest rates on bonds projected to be issued are included in the documentation for SN-03 Study, SN-03-FS-BPA-02, chapter 3.

3.2.2.2 Federal Appropriations. This chapter of the SN-03 Study assumes that all Corps and Reclamation capital investments of the FCRPS will be financed by Federal appropriations unless they are direct-funded by BPA. Such investments are projected to total $535 million during the rate period; $530 million for Corps investments for fish and wildlife recovery and $5 million for generating resource additions and replacements. Capital investments funded by this source do not become a repayment obligation until the investment is placed in service.

The interest rate forecast for appropriated capital investments expected to be placed in service is found in the documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3. Practices for assigning interest rates to new appropriations investment and for determining interest during construction were changed by the Bonneville Power Appropriations Refinancing Act (Refinancing Act). *See* documentation for the Revenue Requirement Study, WP-02-FS-BPA-02A, chapter 8. Each new capital investment is assigned a rate from the Treasury yield curve prevailing in the month prior to the beginning of the fiscal year in which the new investment is placed in service. In determining interest during construction for new capital investments, for each fiscal year of construction the prevailing Treasury one-year rate is applied to the sum of: (1) the cumulative expenditures made; and (2) interest during construction that has accrued prior to the end of the subject fiscal year. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

3.2.2.3 Third-Party Debt. Third-party debt differs from Treasury debt in that entities other than BPA or Treasury issue the debt. BPA's promise to make payments serves as security for bonds or other debt that the third-party issues, resulting in wider market access and potentially more favorable interest rates for the seller. Examples of acquisitions financed in this way include Energy Northwest's (ENW) Columbia Generating Station and WNP-1 and -3 nuclear power projects, and the Lewis County Public Utility District Hydroelectric Project (Cowlitz Falls). *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3, section 5.

3.2.2.4 Debt Optimization Program and Related Assumptions. BPA has instituted a Debt Optimization Program that involves extending lower-interest ENW debt that has come due and using the savings to repay an equivalent amount of Federal debt. The amortization payments to Treasury are in addition to the amounts planned in rate filings. This program has the primary purpose of restoring and extending BPA borrowing authority and is expected to result in lower overall interest expense as well. Because BPA intends to follow this plan, and has committed to ENW that it would follow this plan absent dire financial circumstances, current repayment studies reflect this policy. For FY 2003, the studies include the effects of advance refinancings of ENW debt that are reflected in the current ENW budget, as well those in the 2004 ENW budget. Additional future ENW refinancings are not projected.

In the revenue recovery study, net revenues are determined using the ENW debt service as forecasted in the May Proposal, and do not include the mark-to-market adjustment required by Financial Accounting Standard (FAS) 133. This is consistent with the Accumulated Net

Revenues (ANR) definition used in the FB CRAC (*see* GRSPs, WP-02-A-BPA-02, Appendix 1, page 87).

See Table 3-4 for projected capital funding requirements for the current rate period.

TABLE 3-4: FEDERAL COLUMBIA RIVER POWER SYSTEM (FCRPS)
PROJECTED CAPITAL FUNDING REQUIREMENTS FOR THE POWER BUSINESS LINE
2003 SN CRAC RATE PROPOSAL
(Annual Outlays in Millions of Dollars)

	FY 2002[2/]	FY 2003	FY 2004	FY 2005	FY 2006	Average FYs '02-'06
POWER						
Capital Requirements for Revenue Producing Investments						
Corps & Bureau Additions/Replacements - Direct Funded	73.3	139.0	101.0	110.4	113.2	107.4
Corps & Bureau Additions/Replacements - Appropriations [1/]	5.1	0.0	0.0	0.0	0.0	1.0
PBL Capital Equipment	4.7	23.5	18.2	9.5	8.3	12.8
Capitalized Bond Premium	1.1	0.6	0.6	0.6	0.6	0.7
WNP-2: Additions/Replacements	0.0	0.0	0.0	0.0	0.0	0.0
Other Non - Federal	0.0	0.0	0.0	0.0	0.0	0.0
Annual Capital Requirements for Revenue Producing Investments	**84.2**	**163.1**	**119.8**	**120.5**	**122.1**	**121.9**
Cumulative Capital Requirements for Rev Producing Investments	**84.2**	**247.3**	**367.1**	**487.6**	**609.7**	
Capital Requirements for Non-Revenue Producing and Public Responsibilities Investments						
Conservation Augmentation	28.8	8.6	30.0	36.0	37.8	28.2
Fish Investment						
BPA Fish and Wildlife Investment	6.2	3.3	36.0	36.0	36.0	23.5
Corps & Bureau Fish Investment - Appropriations [1/]	8.8	259.7	127.0	48.1	86.8	106.1
Total Fish Investment	43.8	271.6	193.0	120.1	160.6	157.8
Other Third Party	0.0	0.0	0.0	0.0	0.0	0.0
Annual Capital Req. for Non-Rev. & Public Responsibilities Invests.	**43.8**	**271.6**	**193.0**	**120.1**	**160.6**	**186.1**
Cumulative Capital Req. for Non-Rev. & Public Responsibilities Invest.	**43.8**	**315.4**	**508.4**	**628.5**	**789.1**	
ANNUAL FUNDING REQUIREMENTS FOR POWER	**128.0**	**434.7**	**312.8**	**240.6**	**282.7**	**308.0**
CUMULATIVE FUNDING REQUIREMENTS FOR POWER	**128.0**	**562.7**	**875.5**	**1,116.1**	**1,398.8**	

FOOTNOTES:
[1] Reflects plant in service, including IDC, not expenditures.
[2/] FY 2002 data is actual

3.3 Generation Revenue Recovery

This section describes the cost accounting formats that display the expenses and cash requirements used in the tests of revenues under both current and adjusted rates for FY 2004-2006. Section 3.3.1 provides a line-by-line description of the Income Statements

(Tables 3-5 and 3-8) and section 3.3.2 provides a similar description of the Cash Flow Statements (Tables 3-6 and 3-9). These tables are found at the end of this section. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3, for more detailed income statements.

3.3.1 Income Statement. Below is a line-by-line description of the components in the Income Statement (Table 3-5). Documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3, provides additional information on the data contained in the tables.

Revenues (Line 1). The revenues are those projected from either current rates (Current Revenue Test) or from the adjustments developed through the SN CRAC process (Revised Revenue Test). *See* chapter 6 of this study.

O&M (Line 3). O&M represents FCRPS system O&M expenses incurred by the Corps, Reclamation, USFWS, and BPA. Specific BPA O&M expenses include generation oversight, power scheduling (including upstream benefits), power marketing, Civil Service Retirement System pension expense, inter-business line expenses, administrative and support services, General Transfer Agreements (GTA), and the costs of the NWPPC. This line also includes payments to the Confederated Tribes of the Colville Reservation as called for under the Colville Settlement Act. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Short-Term Power Purchases (Line 5). Short-term purchases of power and off-system storage services are made to provide operational flexibility, displace higher cost purchases, and augment the system output to serve Subscription loads. System augmentation purchases are made to achieve load/resource balance on an annual basis. Balancing power purchases are made to achieve load/resource balance on an hourly, daily, and monthly basis. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 2.

Long-Term Power Purchases (Line 6). Long-term power purchases are acquisitions of cost-effective resources intended to meet BPA's load obligations. These long-term commitments include the Idaho Falls and Cowlitz Falls hydroelectric projects, the billing credits and competitive acquisitions programs, and renewable resources such as wind and geothermal resource development. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Trojan (Line 7). Through net-billing arrangements, BPA acquired Eugene Water and Electric Board's (EWEB) 30 percent ownership share of the now-terminated Trojan Nuclear Project. BPA's cost includes EWEB's share of Trojan phase-down, decommissioning costs, EWEB's debt service, and other Trojan-related costs. EWEB's other Trojan-related costs include contributions in lieu of taxes and EWEB's direct costs. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

WNP-1, -2, and -3 (Lines 8, 9, and 10). Through project and net-billing agreements with Energy Northwest and BPA preference customer participants, and through exchange agreements with IOUs, BPA has acquired 100 percent of the capability of WNP-1 and -2 and 70 percent of the capability of WNP-3. Under a settlement agreement, BPA has certain rights to and obligations for the IOUs' 30 percent share of WNP-3.

BPA is obligated to fund all cash requirements associated with its share of these projects. These cash requirements include debt service and legal costs for WNP-1; debt service, operating, decommissioning, and capital costs for WNP-2; and debt service, 70 percent of preservation, and

IOU settlement costs for WNP-3. IOU settlement costs for WNP-3 include the remaining 30 percent of preservation costs for that project.

Debt service costs include interest on outstanding Energy Northwest bonds, retirement of bonds according to schedules in each bond issue, reserve and contingency amounts, less investment income on various accounts (Bond Fund Reserve Account, Bond Fund Interest Account, Reserve and Contingency Fund, Bond Fund Principal Account, and Revenue Fund), and transfer of any prior year's surplus reserve and contingency. In these Income Statements, ENW debt service from the May 2000 Final Power Rate Proposal is used. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Residential Exchange Program (Line 11). Under the Residential Exchange Program, as provided in Section 5(c) of the Northwest Power Act, 16 U.S.C. § 839c(c), BPA purchases power from a participating utility at the utility's Average System Cost (ASC). BPA then sells an equivalent amount of power to the utility at BPA's applicable Priority Firm rate. The Residential Exchange Program provides regional utilities' residential and small farm customers with benefits of the Federal power system. The exchange of power is not a conventional power transaction.

No power is actually transferred to or from BPA under the Program; rather, participating utilities receive benefit payments from BPA that represent the difference between "selling high" to BPA and "buying low" from BPA. BPA reached a settlement agreement with the IOUs subsequent to May 2000. The settlement contains the monetary benefit payments shown here as well as a power sale.

BPA Fish and Wildlife O&M (Line 12). BPA funds projects designed to accomplish measures in the NWPPC's Columbia River Basin Fish and Wildlife Program and the

2000 NOAA Fisheries and USFWS Biological Opinions, and to be consistent with the Action Agencies' Implementation Plan. This line item includes the expense portion of BPA's Fish and Wildlife direct Program, including staff costs and operating expenses of fish and wildlife activities.

Amortization of Fish and Wildlife Investment (Line 13). Amortization of Fish and Wildlife is the annual expense associated with the write-off of BPA capital investments in BPA's Fish and Wildlife Program. The annual write-off is calculated using the straight-line method of depreciation over an expected average life of 15 years. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Conservation (Line 14). The Northwest Power Act requires BPA to treat cost-effective conservation as an electric power resource in planning to meet the Administrator's obligations to serve loads. The current competitive market situation is driving the need for alternatives to traditional approaches to developing conservation resources. BPA is transitioning from centralized BPA-funded programs to new customer-driven approaches. The costs shown here reflect BPA's participation with other regional entities supporting marketing transformation and development activities, as well as facilitating activities which meet the needs of customers and create business opportunities for the private sector. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Amortization of Conservation Investment (Line 15). Amortization of Conservation is the annual expense associated with the write-off of BPA's investments in energy conservation measures. The annual conservation write-off for legacy conservation is calculated using the straight-line method of depreciation over an expected life of 20 years. For the Conservation Augmentation program, the investments are written off only over the 10-year Subscription

Power Sales Contract term, 2002-2011. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Federal Projects Depreciation (Line 16). Depreciation is the annual capital recovery expense associated with FCRPS plant-in-service. Reclamation and Corps (including lower Snake River Fish and Wildlife Compensation Plan) plant, including assets for fish and wildlife recovery, is depreciated by the straight-line method of calculation, using the average service life of each project. Capital equipment (office furniture and fixtures and information technology hardware and software) is also depreciated by the straight-line method using the average service life for the categories of capital investment. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Total Operating Expenses (Line 17). Total Operating Expenses is the sum of the above expenses (Lines 3 through 16).

Interest on Appropriated Funds (Line 20). Interest on Appropriated Funds includes interest on BPA, Corps, and Reclamation appropriations as determined in the generation repayment studies. *See* documentation for the SN-03 Study, SN-03-E-BPA-02, chapter 3.

Interest on Long-Term Debt (Line 21). Interest on long-term debt includes interest on bonds that BPA issues to the U.S. Treasury to fund investments in capital equipment, conservation, fish and wildlife, and to fund Reclamation and Corps investments under the National Energy Policy Act of 1992 (NEPA-92) (P.L. No. 102-486, 1992 U.S. Code Cong. & Admin. News, 106 State. 2776). Such interest expense is determined in the generation repayment studies. Any payments of premiums for bonds projected to be amortized are included in this line. Also included is an interest income credit calculated in the generation repayment studies on funds to be collected during each year for payments of Federal interest and amortization at the end of the fiscal year. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Interest Credit on Cash Reserves (Line 22). An interest income credit is also computed on the projected year-end cash balance in the BPA fund attributable to the Power Marketing function that carries over into the next year. It is credited against bond interest. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Amortization of Capitalized Bond Premiums (Line 23). When a bond issued to the Treasury is refinanced, any call premium resulting from early retirement of the original bond is capitalized and included in the principal of the new bond. The capitalized call premium then is amortized over the term of the new bond. The annual amortization is a non-cash component of interest expense. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Capitalization Adjustment (Line 24). Implementation of the Refinancing Act entailed a change in capitalization on BPA's financial statements. Outstanding appropriations were reduced by $2,142 million in the generation function as a result of the refinancing. The reduction is recognized annually over the remaining repayment period of the refinanced appropriations. The annual recognition of this adjustment is based on the increase in annual interest expense resulting from implementation of the Refinancing Act, as shown in repayment studies for the year of the refinancing transaction (1997). The capitalization adjustment is included on the income statement as a non-cash, contra-expense. *See* Volume 1, chapter 8 of documentation for Revenue Requirement Study, WP-02-FS-BPA-02A.

Allowance for Funds Used During Construction (AFUDC) (Line 25). AFUDC is a credit against interest costs on long-term debt (Line 20). This reduction to interest costs reflects an estimate of interest on the funds used during the construction period of facilities that have yet to be placed in service. AFUDC is capitalized along with other construction costs and is recovered through rates over the expected service life of the related plant as part of the depreciation expense after the facilities are placed in service. AFUDC, which is calculated outside the generation repayment studies, is associated with the Corps and Reclamation capital investments direct-funded by BPA. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Net Interest Expense (Line 26). Net Interest Expense is computed as the sum of Interest on Appropriated Funds (Line 20), Interest on Long-Term (Line 21), Interest Credit on Cash Reserves (Line 22), Amortization of Capitalized Bond Premiums (Line 23), Capitalization Adjustment (Line 24), and AFUDC (Line 25).

Total Expenses (Line 27). Total Expenses are the sum of Total Operating Expenses (Line 17) and Net Interest Expense (Line 26).

Net Revenues (Line 28). Net Revenues are the difference between the projected revenues (Line 1) and the Total Expenses (Line 27).

3.3.2 Statement of Cash Flows. Below is a line-by-line description of each of the components in the Statement of Cash Flows (Table 3-6, found at the end of this section). Chapter 3 of documentation for the SN-03 Study, SN-03-FS-BPA-02, provides additional information related to the data contained in this table.

Net Revenues (Line 2). Net Revenues are the amounts calculated on the Income Statement as revenues less total expenses.

Federal Projects Depreciation (Line 4). Depreciation is from the Income Statement (Line 16). It is included in computing Cash Provided By Operations (Line 8) because it is a non-cash expense of the FCRPS.

Amortization of Conservation/Fish and Wildlife Investment (Line 5). Amortization of Conservation and Fish and Wildlife Investment is from the Income Statement (Lines 13 and 15). Similar to Depreciation (Line 4), it is a non-cash expense.

Amortization of Capitalized Bond Premiums (Line 6). Amortization of Capitalized Bond Premiums, from the Income Statement (Line 23), is also a non-cash expense.

Capitalization Adjustment (Line 7). Capitalization Adjustment is from the Income Statement (Table 5A, Line 22). It is a non-cash (contra) expense. *See* Volume 1, chapter 8 of documentation for Revenue Requirement Study, WP-02-FS-BPA-02A.

Accrual Revenues (Line 8). Payments received by BPA for the Enron/PGE WNP-3 settlement and M-S-R Public Power Agency settlement have been accounted for as unearned revenues and recognized annually in actual and forecasted revenues. The annual accrual revenues, which are part of the total revenues recovering FCRPS costs, are included here as a non-cash adjustment to cash from current operations.

Cash Provided By Current Operations (Line 9). Cash Provided By Current Operations, the sum of Lines 2 through8, is available for the year to satisfy cash requirements.

Investment in Utility Plant (Line 12). Investment in Utility Plant represents the annual increase in additions to plant-in-service for Corps and Reclamation and BPA's capital expenditures, including construction work-in-progress funded by bonds. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Investment in Conservation (Line 13). Investment in Conservation represents the annual increase in capital expenditures associated with the Conservation Augmentation program. *See* Table 3-4.

Investment in Fish and Wildlife (Line 14). Investment in Fish and Wildlife represents the annual increase in BPA's capital expenditures to fund projects designed to comply with the NWPPC's Columbia River Basin Fish and Wildlife Program and Biological Opinions issued by NOAA Fisheries and USFWS. *See* Table 3-4.

Cash Used for Capital Investments (Line 15). Cash Used for Capital Investments is the sum of Lines 12, 13, and 14.

Increase in Long-Term Debt (Line 17). Increase in Long-Term Debt reflects the new bonds issued by BPA to the U.S. Treasury to fund capital equipment, conservation, and fish and wildlife capital programs and to direct-fund Reclamation and Corps investments under NEPA-92. Also included in this amount are any notes issued to the U.S. Treasury. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Repayment of Long-Term Debt (Line 18). Repayment of Long-Term Debt is BPA's planned repayment of outstanding bonds issued by BPA to the U.S. Treasury as determined in the generation repayment studies. *See* documentation for SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Increase in Congressional Capital Appropriations (Line 19). Increase in Congressional Capital Appropriations represents Congressional appropriations projected to be received during the year for Corps and Reclamation capital projects. *See* Table 3-4 and documentation for SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Repayment of Capital Appropriations (Line 20). Repayment of Capital Appropriations represents projected amortization of outstanding Corps and Reclamation appropriations as determined in the generation repayment studies. *See* documentation for SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Payment of Irrigation Assistance (Line 21). Payment of Irrigation Assistance represents the payment of appropriated capital construction costs of Reclamation irrigation facilities that have been determined to be beyond the ability of the irrigators to pay and allocated to generation revenues for repayment. *See* documentation for the SN-03 Study, SN-03-FS-BPA-02, chapter 3.

Cash From Treasury Borrowing and Appropriations (Line 22). Cash from Treasury Borrowing and Appropriations is the sum of Lines 16 through 20. This is the net cash flow resulting from increases in cash from new long-term debt and capital appropriations and decreases in cash from repayment of long-term debt and capital appropriations.

Annual Increase (Decrease) in Cash (Line 23). Annual Increase (Decrease) in Cash, the sum of Lines 9, 15, and 22, reflects the annual net cash flow from current operations and investing and financing activities. Projected revenues must meet all projected annual cash flow requirements, as included on the Statement of Cash Flows. A decrease shown in this line would indicate that annual revenues would be insufficient to cover the year's cash requirements.

3.3.3 Current Revenue Test. Consistent with RA 6120.2, the continuing adequacy of existing rates must be tested annually. The current revenue test (*see* Tables 3-5 and 3-6 for the remainder of the rate period and Table 3-7 for the rate period and repayment period) determines whether the revenues expected from current rates can continue to meet cost recovery requirements. However, the SN CRAC trigger study determined the need to modify the existing rates in this process and a current revenue test was not relied upon.

TABLE 3-5
GENERATION CURRENT REVENUE TEST
INCOME STATEMENT
($thousands)

		A FY 2004	B FY 2005	C FY 2006
1	REVENUES FROM CURRENT RATES	2,883,150	2,825,801	2,812,713
2	OPERATING EXPENSES:			
3	OPERATION & MAINTENANCE	550,262	554,124	561,711
4	PURCHASE AND EXCHANGE POWER-			
5	SHORT-TERM POWER PURCHASES	705,114	740,141	703,386
6	LONG-TERM POWER PURCHASES	67,343	92,771	103,131
7	TROJAN	22,164	18,389	13,709
8	WNP NO. 1	174,623	167,910	179,992
9	WNP NO. 2	450,524	439,525	422,976
10	WNP NO. 3	149,232	149,480	147,836
11	RESIDENTIAL EXCHANGE - IOU SETTLEMENT	143,802	143,802	143,802
12	FISH & WILDLIFE	139,000	139,000	139,000
13	AMORTIZATION OF FISH & WILDLIFE	18,508	20,238	21,378
14	CONSERVATION	77,565	77,190	76,835
15	AMORTIZATION OF CONSERVATION	54,194	55,020	55,692
16	FEDERAL PROJECTS DEPRECIATION	104,135	109,627	114,105
17	TOTAL OPERATING EXPENSES	2,656,466	2,707,217	2,683,553
18	INTEREST EXPENSE:			
19	INTEREST ON FEDERAL INVESTMENT-			
20	ON APPROPRIATED FUNDS	234,187	234,822	230,925
21	ON LONG-TERM DEBT	59,388	70,415	80,940
22	INTEREST CREDIT ON CASH RESERVES	(21,989)	(17,814)	(5,763)
23	AMORTIZATION OF CAPITALIZED BOND PREMIUMS	613	613	613
24	CAPITALIZATION ADJUSTMENT	(47,836)	(45,937)	(45,937)
25	ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION	(6,578)	(7,027)	(6,982)
26	NET INTEREST EXPENSE	217,785	235,072	253,796
27	TOTAL EXPENSES	2,874,251	2,942,289	2,937,349
28	NET REVENUES	8,899	(116,488)	(124,636)

TABLE 3-6
GENERATION CURRENT REVENUE TEST
STATEMENT OF CASH FLOWS
($thousands)

		A FY 2004	B FY 2005	C FY 2006
1	CASH FROM CURRENT OPERATIONS:			
2	NET REVENUES	8,899	(116,488)	(124,636)
3	EXPENSES NOT REQUIRING CASH:			
4	FEDERAL PROJECTS DEPRECIATION	104,135	109,627	114,105
5	AMORTIZATION OF CONSERVATION/F&W INVESTMENT	72,702	75,258	77,070
6	AMORTIZATION OF CAPITALIZED BOND PREMIUMS	613	613	613
7	CAPITALIZATION ADJUSTMENT	(47,836)	(45,937)	(45,937)
8	ACCRUAL REVENUES	(5,179)	(5,179)	(5,179)
9	CASH PROVIDED BY CURRENT OPERATIONS	133,334	17,894	16,036
10	CASH USED FOR CAPITAL INVESTMENTS:			
11	INVESTMENT IN:			
12	UTILITY PLANT	(246,331)	(167,961)	(208,255)
13	CONSERVATION	(30,000)	(36,000)	(37,800)
14	FISH & WILDLIFE	(36,000)	(36,000)	(36,000)
15	CASH USED FOR CAPITAL INVESTMENTS	(312,331)	(239,961)	(282,055)
16	CASH FROM TREASURY BORROWING AND APPROPRIATIONS:			
17	INCREASE IN LONG-TERM DEBT	185,300	191,900	195,300
18	REPAYMENT OF LONG-TERM DEBT	(30,948)	(45,000)	0
19	INCREASE IN CONGRESSIONAL CAPITAL APPROPRIATIONS	127,031	48,061	86,755
20	REPAYMENT OF CAPITAL APPROPRIATIONS 1/	(66,337)	(143,097)	(177,476)
21	PAYMENT OF IRRIGATION ASSISTANCE	(739)	0	0
22	CASH FROM TREASURY BORROWING AND APPROPRIATIONS	214,307	51,864	104,579
23	ANNUAL INCREASE (DECREASE) IN CASH	35,310	(170,203)	(161,440)
	1/ Includes repayment to DOJ Judgment Fund	(5,000)	(40,000)	(49,000)

TABLE 3-7
FEDERAL COLUMBIA RIVER POWER SYSTEM
GENERATION REVENUES FROM CURRENT RATES
REVENUE REQUIREMENT AND REPAYMENT STUDY RESULTS THROUGH THE REPAYMENT PERIOD
($000)

YEAR	A REVENUES (STATEMENT A)	B OPERATION & MAINTENANCE (STATEMENT E)	C PURCHASE AND EXCHANGE POWER (STATEMENT E)	D DEPRECIATION	E NET INTEREST (STATEMENT D)	F NET REVENUES (F=A-B-C-D-E)	G NONCASH EXPENSES 1/ (COLUMN D)	H FUNDS FROM OPERATION 2/ (H=F+G)	I AMORTIZATION (REV REQ STUDY DOC,V 2,C 3)	J IRRIGATION AMORTIZATION (STATEMENT C)	K NET POSITION (K=H-I-J)
COMBINED CUMULATIVE											
1977	3,298,951	963,839	348,748	807,047	1,220,170	(40,853)	807,047	766,194	628,460		137,734
GENERATION											
1978	217,534	40,331	51,130	36,511	81,883	7,679	46,521	54,200	6,937		47,263
1979	189,542	49,347	25,195	39,083	98,889	(22,972)	42,586	19,614	914		18,700
1980	341,863	76,460	182,743	41,237	105,740	(64,317)	94,441	30,124	73		30,051
1981	502,589	92,990	269,625	42,870	118,861	(21,757)	48,941	27,184	4,410 **3/**		22,774
1982	1,067,604	115,430	945,442	49,355	145,610	(188,233)	55,427	(132,806)	0		(132,806)
1983	1,485,741	114,960	1,255,810	57,967	153,763	(96,759)	64,039	(32,720)	0		(32,720)
1984	2,248,654	146,870	1,898,859	67,644	170,942	(35,661)	257,382	221,721	192,294 **4/**		29,427
1985	2,371,829	137,664	1,898,178	75,711	173,888	86,388	75,711	162,099	37,354		124,745
1986	2,179,326	135,632	1,895,153	84,162	175,257	(110,878)	84,162	(26,716)	10,587		(37,303)
1987	2,014,040	154,184	1,826,711	91,552	199,448	(257,855)	91,552	(166,303)	2,471		(168,774)
1988	2,303,479	183,326	1,796,029	98,288	204,416	21,420	98,288	119,708	149,778		(30,070)
1989	2,273,508	173,694	1,760,205	100,104	189,446	50,059	100,104	150,163	32,875		117,288
1990	2,315,035	198,721	1,527,829	105,338	197,462	285,685	105,338	391,023	63,336		327,687
1991	2,482,482	216,777	1,572,046	103,047	167,559	423,053	103,047	526,100	114,583		411,517
1992	2,142,645	287,360	1,821,930	110,403	169,711	(246,759)	110,403	(136,356)	57,543		(193,899)
1993	2,233,989	309,915	1,868,863	118,143	186,455	(249,387)	118,143	(131,244)	117,974		(249,218)
1994	2,536,059	316,352	1,934,944	125,396	197,222	(37,855)	125,396	87,541	135,018		(47,477)
1995	2,704,285	327,420	1,915,529	141,798	215,850	103,688	141,798	245,486	196,544		48,942
1996	2,744,510	366,808	1,959,406	151,122	208,509	58,665	154,024	197,689 **5/**	135,010		62,679
1997	1,996,439	612,961	924,789	148,215	197,238	113,236	105,956	219,192	82,971	25,143	111,078
1998	2,060,750	665,005	1,091,678	162,562	201,930	(60,425)	118,892	76,812	61,000		15,812
1999	2,366,423	702,717	1,196,308	162,008	182,079	123,311	118,951	311,083	25,000		286,083
2000	2,720,940	723,377	1,410,029	165,874	169,320	252,340	119,184	366,345	175,338		191,007
2001	3,888,051	766,244	2,998,914	168,433	166,504	(212,044)	121,506	(143,594)	151,062	16,560	(311,216)
2002	3,047,803	992,628	1,766,850	174,164	201,582	(87,421)	127,491	(3,413)	369,800		(373,213)
COST EVALUATION PERIOD											
2003	3,092,874	1,011,254	1,649,734	178,300	184,464	69,122	130,996	173,759	72,984		100,775
RATE APPROVAL PERIOD											
2004	2,883,150	766,827	1,712,802	176,837	217,785	8,899	129,614	133,334	97,285	739	35,310
2005	2,825,801	770,314	1,752,018	184,885	235,072	(116,488)	139,561	17,894	188,097		(170,203)
2006	2,812,713	777,546	1,714,832	191,175	253,796	(124,636)	145,851	16,036	177,476		(161,440)
REPAYMENT PERIOD											
2007	2,812,713	777,546	1,718,942	191,175	252,949	(127,899)	145,851	12,773	176,462	0	(163,689)
2008	2,812,713	777,546	1,697,290	191,175	239,557	(92,854)	145,851	47,818	208,557	2,950	(163,689)
2009	2,812,713	777,546	1,685,427	191,175	226,405	(67,841)	145,851	72,831	229,107	7,413	(163,689)
2010	2,812,713	777,546	1,704,711	191,175	210,306	(71,025)	145,851	69,647	233,336	0	(163,689)
2011	2,812,713	777,546	1,723,725	191,175	202,198	(81,931)	145,851	58,741	222,430	0	(163,689)
2012	2,812,713	777,546	1,807,729	191,175	199,232	(162,969)	145,851	(22,297)	140,616	776	(163,689)
2013	2,812,713	777,546	1,564,590	191,175	188,941	90,461	145,851	231,133	348,911	45,911	(163,689)
2014	2,812,713	777,546	1,529,041	191,175	172,139	142,812	145,851	283,484	402,966	44,207	(163,689)
2015	2,812,713	777,546	1,541,653	191,175	152,238	150,101	145,851	290,773	409,212	45,250	(163,689)
2016	2,812,713	777,546	1,816,559	191,175	140,912	(113,478)	145,851	27,194	132,954	57,929	(163,689)
2017	2,812,713	777,546	1,879,052	191,175	143,401	(178,460)	145,851	(37,788)	70,021	55,879	(163,688)
2018	2,812,713	777,546	1,739,519	191,175	150,854	(46,380)	145,851	94,292	234,304	23,677	(163,689)
2019	2,812,713	777,546	1,470,155	191,175	139,422	234,415	145,851	375,087	479,543	59,233	(163,689)
2020	2,812,713	777,546	1,470,303	191,175	121,741	251,948	145,851	392,620	522,428	33,881	(163,689)
2021	2,812,713	777,546	1,470,459	191,175	80,284	293,250	145,851	433,922	582,463	15,148	(163,689)

YEAR	A REVENUES (STATEMENT A)	B OPERATION & MAINTENANCE (STATEMENT E)	C PURCHASE AND EXCHANGE POWER (STATEMENT E)	D DEPRECIATION	E NET INTEREST (STATEMENT D)	F NET REVENUES (F=A-B-C-D-E)	G NONCASH EXPENSES 1/ (COLUMN D)	H FUNDS FROM OPERATION 2/ (H=F+G)	I AMORTIZATION (REV REQ STUDY DOC,V 2,C 3)	J IRRIGATION AMORTIZATION (STATEMENT C)	K NET POSITION (K=H-I-J)
2022	2,812,713	777,546	1,470,631	191,175	48,913	324,448	145,851	465,120	615,113	13,696	(163,689)
2023	2,812,713	777,546	1,471,223	191,175	21,725	351,044	145,851	491,716	646,695	8,710	(163,689)
2024	2,812,713	777,546	1,457,945	191,175	(14,093)	400,140	145,851	540,812	682,461	22,040	(163,689)
2025	2,812,713	777,546	1,457,176	191,175	(47,229)	434,045	145,851	574,717	503,234	235,173	(163,689)
2026	2,812,713	777,546	1,457,025	191,175	(66,639)	453,606	145,851	594,278	89,609	12,826	491,843
2027	2,812,713	777,546	1,457,259	191,175	(63,076)	449,809	145,851	590,481	206,451	0	384,030
2028	2,812,713	777,546	1,457,509	191,175	(62,514)	448,997	145,851	589,669	222,776	0	366,893
2029	2,812,713	777,546	1,457,776	191,175	(63,788)	450,004	145,851	590,676	182,529	0	408,147
2030	2,812,713	777,546	1,458,062	191,175	(68,001)	453,930	145,851	594,602	37,938	0	556,664
2031	2,812,713	777,546	1,458,367	191,175	(64,860)	450,485	145,851	591,157	150,359	0	440,798
2032	2,812,713	777,546	1,458,694	191,175	(65,083)	450,381	145,851	591,053	140,461	0	450,592
2033	2,812,713	777,546	1,459,042	191,175	(67,213)	452,163	145,851	592,835	62,747	0	530,088
2034	2,812,713	777,546	1,459,415	191,175	(67,823)	452,400	145,851	593,072	42,345	0	550,727
2035	2,812,713	777,546	1,459,813	191,175	(63,578)	447,756	145,851	588,428	189,603	0	398,825
2036	2,812,713	777,546	1,460,238	191,175	(66,916)	450,670	145,851	591,342	76,768	0	514,574
2037	2,812,713	777,546	1,460,692	191,175	(65,468)	448,767	145,851	589,439	120,905	0	468,534
2038	2,812,713	777,546	1,461,178	191,175	(68,610)	451,424	145,851	592,096	13,508	0	578,588
2039	2,812,713	777,546	1,461,696	191,175	(64,486)	446,782	145,851	587,454	157,084	0	430,370
2040	2,812,713	777,546	1,462,251	191,175	(68,951)	450,692	145,851	591,364	639	0	473,068
2041	2,812,713	777,546	1,462,844	191,175	(65,609)	446,757	145,851	587,429	118,296	0	528,877
2042	2,812,713	777,546	1,463,476	191,175	(67,274)	447,789	145,851	588,461	58,552	0	529,909
2043	2,812,713	777,546	1,464,153	191,175	(67,303)	447,142	145,851	587,814	54,742	0	533,072
2044	2,812,713	777,546	1,464,876	191,175	(66,928)	446,044	145,851	586,716	68,740	0	517,976
2045	2,812,713	777,546	1,465,647	191,175	(65,470)	443,815	145,851	584,487	119,819	0	464,668
2046	2,812,713	777,546	1,466,472	191,175	(60,850)	438,370	145,851	579,042	280,543	0	298,499
2047	2,812,713	777,546	1,467,353	191,175	(61,635)	438,274	145,851	578,946	243,904	0	335,042
2048	2,812,713	777,546	1,468,295	191,175	(62,928)	438,624	145,851	579,296	197,781	0	381,515
2049	2,812,713	777,546	1,469,302	191,175	(67,068)	441,759	145,851	582,431	58,206	0	524,225
2050	2,812,713	777,546	1,470,377	191,175	(66,336)	439,951	145,851	580,623	82,164	0	498,459
2051	2,812,713	777,546	1,471,525	191,175	(64,300)	436,767	145,851	577,439	156,524	0	420,915
2052	2,812,713	777,546	1,472,753	191,175	(63,144)	434,383	145,851	575,055	188,205	0	386,850
2053	2,812,713	777,546	1,474,065	191,175	(62,654)	432,580	145,851	573,252	206,728	0	366,524
2054	2,812,713	777,546	1,386,079	191,175	(70,976)	528,889	145,851	669,561	6,111	0	663,450
2055	2,812,713	777,546	1,119,022	191,175	(74,273)	799,243	145,851	939,915	157,679	0	782,236
2056	2,812,713	777,546	1,119,022	191,175	(75,959)	800,929	145,851	941,601	101,320	0	840,281
GENERATION TOTALS	188,621,743	46,222,684	111,323,049	11,955,059	6,097,868	13,023,083	9,738,600	22,457,180	11,199,883	727,141	9,039,608

1/CONSISTS OF DEPRECIATION PLUS ANY ACCOUNTING WRITE-OFFS INCLUDED IN EXPENSES.

2/MAY INCLUDE ADJUSTMENTS FOR ACCRUAL REVENUES OR OTHER ACCRUAL TO CASH CONSIDERATIONS.

3/CONSISTS OF AMORTIZATION ($1,650) AND DEFERRAL PAYMENT ($2,760).

4/CONSISTS OF AMORTIZATION ($1,342) AND DEFERRAL PAYMENT ($190,952).

5/REDUCED BY $15,000 OF REVENUE FINANCING.

3.3.4 Revised Revenue Test. Consistent with RA 6120.2, the adequacy of proposed rates must be demonstrated. The revised revenue test determines whether the revenues projected from proposed rates will meet cost recovery requirements as well as the U.S. Treasury payment probability risk goal for the rate period. The results of the revised revenue test demonstrate that modified rates are adequate to fulfill the basic cost recovery requirements and meet risk mitigation policy for the rate period of FY 2004-2006.

For the rate test period, the demonstration of the adequacy of adjusted rates is shown on Tables 3-8 (Income Statement) and 3-9 (Cash Flow Statement).

Table 3-9, Statements of Cash Flows, tests the sufficiency of the resulting Net Revenues from Table 3-8 (Line 28) for making the planned annual amortization and irrigation assistance payments. This is demonstrated by the Annual Increase (Decrease) in Cash (Line 23). As explained in section 3.3.1, the annual cash flow (Line 23) must be at least zero to demonstrate the adequacy of the projected revenues to cover all cash requirements.

Table 3-10 demonstrates whether projected revenues from proposed rates are adequate to meet the cost recovery criteria of RA 6120.2 over the repayment period. The data are presented in a format consistent with the revised revenue tests (Tables 8A and 8B) and separate accounting analyses. The focal point of these tables is the Net Position (Column K), which is the amount of funds provided by revenues that remain after meeting annual expenses requiring cash for the rate period and repayment of the Federal investment. Thus, if the Net Position is zero or greater in each year of the rate approval period through the repayment period, the projected revenues demonstrate BPA's ability to repay the Federal investment in the FCRPS within the allowable time. As shown in Column K, the resulting Net Position is greater than zero for each year of the rate approval period and in each year of the repayment period.

TABLE 3-8
GENERATION REVISED REVENUE TEST
INCOME STATEMENT
($thousands)

		A FY 2004	B FY 2005	C FY 2006
1	REVENUES FROM CURRENT RATES	3,003,017	2,975,566	2,955,147
2	OPERATING EXPENSES:			
3	OPERATION & MAINTENANCE	550,262	554,124	561,711
4	PURCHASE AND EXCHANGE POWER-			
5	SHORT-TERM POWER PURCHASES	689,679	722,807	687,334
6	LONG-TERM POWER PURCHASES	67,343	92,771	103,131
7	TROJAN	22,164	18,389	13,709
8	WNP NO. 1	174,623	167,910	179,992
9	WNP NO. 2	450,524	439,525	422,976
10	WNP NO. 3	149,232	149,480	147,836
11	RESIDENTIAL EXCHANGE - IOU SETTLEMENT	143,802	143,802	143,802
12	FISH & WILDLIFE	139,000	139,000	139,000
13	AMORTIZATION OF FISH & WILDLIFE	18,508	20,238	21,378
14	CONSERVATION	77,565	77,190	76,835
15	AMORTIZATION OF CONSERVATION	54,194	55,020	55,692
16	FEDERAL PROJECTS DEPRECIATION	104,135	109,627	114,105
17	TOTAL OPERATING EXPENSES	2,641,031	2,689,883	2,667,501
18	INTEREST EXPENSE:			
19	INTEREST ON FEDERAL INVESTMENT-			
20	ON APPROPRIATED FUNDS	234,187	234,822	230,925
21	ON LONG-TERM DEBT	59,388	70,415	80,940
22	INTEREST CREDIT ON CASH RESERVES	(24,113)	(26,533)	(23,968)
23	AMORTIZATION OF CAPITALIZED BOND PREMIUMS	613	613	613
24	CAPITALIZATION ADJUSTMENT	(47,836)	(45,937)	(45,937)
25	ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION	(6,578)	(7,027)	(6,982)
26	NET INTEREST EXPENSE	215,661	226,353	235,591
27	TOTAL EXPENSES	2,856,692	2,916,236	2,903,092
28	NET REVENUES	146,325	59,330	52,055

TABLE 3-9
GENERATION REVISED REVENUE TEST
STATEMENT OF CASH FLOWS
($thousands)

		A FY 2004	B FY 2005	C FY 2006
1	CASH FROM CURRENT OPERATIONS:			
2	NET REVENUES	146,325	59,330	52,055
3	EXPENSES NOT REQUIRING CASH:			
4	FEDERAL PROJECTS DEPRECIATION	104,135	109,627	114,105
5	AMORTIZATION OF CONSERVATION/F&W INVESTMENT	72,702	75,258	77,070
6	AMORTIZATION OF CAPITALIZED BOND PREMIUMS	613	613	613
7	CAPITALIZATION ADJUSTMENT	(47,836)	(45,937)	(45,937)
8	ACCRUAL REVENUES	(5,179)	(5,179)	(5,179)
9	CASH PROVIDED BY CURRENT OPERATIONS	270,760	193,712	192,727
10	CASH USED FOR CAPITAL INVESTMENTS:			
11	INVESTMENT IN:			
12	UTILITY PLANT	(246,331)	(167,961)	(208,255)
13	CONSERVATION	(30,000)	(36,000)	(37,800)
14	FISH & WILDLIFE	(36,000)	(36,000)	(36,000)
15	CASH USED FOR CAPITAL INVESTMENTS	(312,331)	(239,961)	(282,055)
16	CASH FROM TREASURY BORROWING AND APPROPRIATIONS:			
17	INCREASE IN LONG-TERM DEBT	185,300	191,900	195,300
18	REPAYMENT OF LONG-TERM DEBT	(30,948)	(45,000)	0
19	INCREASE IN CONGRESSIONAL CAPITAL APPROPRIATIONS	127,031	48,061	86,755
20	REPAYMENT OF CAPITAL APPROPRIATIONS 1/	(66,337)	(143,097)	(177,476)
21	PAYMENT OF IRRIGATION ASSISTANCE	(739)	0	0
22	CASH FROM TREASURY BORROWING AND APPROPRIATIONS	214,307	51,864	104,579
23	ANNUAL INCREASE (DECREASE) IN CASH	172,736	5,615	15,251

1/ Includes repayment to DOJ Judgment Fund	(5,000)	(40,000)	(49,000)

TABLE 3-10
FEDERAL COLUMBIA RIVER POWER SYSTEM
GENERATION REVENUES FROM PROPOSED RATES
REVENUE REQUIREMENT AND REPAYMENT STUDY RESULTS THROUGH THE REPAYMENT PERIOD
($000)

YEAR	A REVENUES (STATEMENT A)	B OPERATION & MAINTENANCE (STATEMENT E)	C PURCHASE AND EXCHANGE POWER (STATEMENT E)	D DEPRECIATION	E NET INTEREST (STATEMENT D)	F NET REVENUES (F=A-B-C-D-E)	G NONCASH EXPENSES 1/ (COLUMN D)	H FUNDS FROM OPERATION 2/ (H=F+G)	I AMORTIZATION (REV REQ STUDY DOC,V 2,C 3)	J IRRIGATION AMORTIZATION (STATEMENT C)	K NET POSITION (K=H-I-J)
COMBINED CUMULATIVE											
1977	3,298,951	963,839	348,748	807,047	1,220,170	(40,853)	807,047	766,194	628,460		137,734
GENERATION											
1978	217,534	40,331	51,130	36,511	81,883	7,679	46,521	54,200	6,937		47,263
1979	189,542	49,347	25,195	39,083	98,889	(22,972)	42,586	19,614	914		18,700
1980	341,863	76,460	182,743	41,237	105,740	(64,317)	94,441	30,124	73		30,051
1981	502,589	92,990	269,625	42,870	118,861	(21,757)	48,941	27,184	4,410 3/		22,774
1982	1,067,604	115,430	945,442	49,355	145,610	(188,233)	55,427	(132,806)	0		(132,806)
1983	1,485,741	114,960	1,255,810	57,967	153,763	(96,759)	64,039	(32,720)	0		(32,720)
1984	2,248,654	146,870	1,898,859	67,644	170,942	(35,661)	257,382	221,721	192,294 4/		29,427
1985	2,371,829	137,664	1,898,178	75,711	173,888	86,388	75,711	162,099	37,354		124,745
1986	2,179,326	135,632	1,895,153	84,162	175,257	(110,878)	84,162	(26,716)	10,587		(37,303)
1987	2,014,040	154,184	1,826,711	91,552	199,448	(257,855)	91,552	(166,303)	2,471		(168,774)
1988	2,303,479	183,326	1,796,029	98,288	204,416	21,420	98,288	119,708	149,778		(30,070)
1989	2,273,508	173,694	1,760,205	100,104	189,446	50,059	100,104	150,163	32,875		117,288
1990	2,315,035	198,721	1,527,829	105,338	197,462	285,685	105,338	391,023	63,336		327,687
1991	2,482,482	216,777	1,572,046	103,047	167,559	423,053	103,047	526,100	114,583		411,517
1992	2,142,645	287,360	1,821,930	110,403	169,711	(246,759)	110,403	(136,356)	57,543		(193,899)
1993	2,233,989	309,915	1,868,863	118,143	186,455	(249,387)	118,143	(131,244)	117,974		(249,218)
1994	2,536,059	316,352	1,934,944	125,396	197,222	(37,855)	125,396	87,541	135,018		(47,477)
1995	2,704,285	327,420	1,915,529	141,798	215,850	103,688	141,798	245,486	196,544		48,942
1996	2,744,510	366,808	1,959,406	151,122	208,509	58,665	154,024	197,689 5/	135,010		62,679
1997	1,996,439	612,961	924,789	148,215	197,238	113,236	105,956	219,192	82,971	25,143	111,078
1998	2,060,750	665,005	1,091,678	162,562	201,930	(60,425)	118,892	76,812	61,000		15,812
1999	2,366,423	702,717	1,196,308	162,008	182,079	123,311	118,951	311,083	25,000		286,083
2000	2,720,940	723,377	1,410,029	165,874	169,320	252,340	119,184	366,345	175,338		191,007
2001	3,888,051	766,244	2,998,914	168,433	166,504	(212,044)	121,506	(143,594)	151,062	16,560	(311,216)
2002	3,047,803	992,628	1,766,850	174,164	201,582	(87,421)	127,491	(3,413)	369,800		(373,213)
COST EVALUATION PERIOD											
2003	3,092,874	1,011,254	1,649,734	178,300	184,464	69,122	130,996	173,759	72,984		100,775
RATE APPROVAL PERIOD											
2004	3,024,636	766,827	1,696,724	176,837	215,661	168,587	129,614	293,022	97,285	739	194,998
2005	3,001,579	770,314	1,733,828	184,885	226,353	86,199	139,561	220,581	188,097		32,484
2006	2,977,343	777,546	1,698,031	191,175	235,591	75,000	145,851	215,672	177,476		38,196
REPAYMENT PERIOD											
2007	2,977,343	777,546	1,702,141	191,175	234,724	71,757	145,851	212,429	176,462	0	35,967
2008	2,977,343	777,546	1,680,489	191,175	221,332	106,802	145,851	247,474	208,557	2,950	35,967
2009	2,977,343	777,546	1,668,626	191,175	208,180	131,815	145,851	272,487	229,107	7,413	35,967
2010	2,977,343	777,546	1,687,910	191,175	192,081	128,631	145,851	269,303	233,336	0	35,967
2011	2,977,343	777,546	1,706,924	191,175	183,973	117,725	145,851	258,397	222,430	0	35,967
2012	2,977,343	777,546	1,790,928	191,175	181,007	36,687	145,851	177,359	140,616	776	35,967
2013	2,977,343	777,546	1,547,789	191,175	170,716	290,117	145,851	430,789	348,911	45,911	35,967
2014	2,977,343	777,546	1,512,240	191,175	153,914	342,468	145,851	483,140	402,966	44,207	35,967
2015	2,977,343	777,546	1,524,852	191,175	134,013	349,757	145,851	490,429	409,212	45,250	35,967
2016	2,977,343	777,546	1,799,758	191,175	122,687	86,178	145,851	226,850	132,954	57,929	35,967
2017	2,977,343	777,546	1,862,251	191,175	125,176	21,196	145,851	161,868	70,021	55,879	35,968
2018	2,977,343	777,546	1,722,718	191,175	132,629	153,276	145,851	293,948	234,304	23,677	35,967
2019	2,977,343	777,546	1,453,354	191,175	121,197	434,071	145,851	574,743	479,543	59,233	35,967
2020	2,977,343	777,546	1,453,502	191,175	103,516	451,604	145,851	592,276	522,428	33,881	35,967
2021	2,977,343	777,546	1,453,658	191,175	62,059	492,906	145,851	633,578	582,463	15,148	35,967

TABLE 3-10
FEDERAL COLUMBIA RIVER POWER SYSTEM
GENERATION REVENUES FROM PROPOSED RATES
REVENUE REQUIREMENT AND REPAYMENT STUDY RESULTS THROUGH THE REPAYMENT PERIOD
($000)

	A	B	C	D	E	F	G	H	I	J	K
YEAR	REVENUES (STATEMENT A)	OPERATION & MAINTENANCE (STATEMENT E)	PURCHASE AND EXCHANGE POWER (STATEMENT E)	DEPRECIATION	NET INTEREST (STATEMENT D)	NET REVENUES (F=A-B-C-D-E)	NONCASH EXPENSES 1/ (COLUMN D)	FUNDS FROM OPERATION 2/ (H=F+G)	AMORTIZATION (REV REQ STUDY DOC,V 2,C 3)	IRRIGATION AMORTIZATION (STATEMENT C)	NET POSITION (K=H-I-J)
2022	2,977,343	777,546	1,453,830	191,175	30,688	524,104	145,851	664,776	615,113	13,696	35,967
2023	2,977,343	777,546	1,454,422	191,175	3,500	550,700	145,851	691,372	646,695	8,710	35,967
2024	2,977,343	777,546	1,441,144	191,175	(32,318)	599,796	145,851	740,468	682,461	22,040	35,967
2025	2,977,343	777,546	1,440,375	191,175	(65,454)	633,701	145,851	774,373	503,234	235,173	35,967
2026	2,977,343	777,546	1,440,224	191,175	(84,864)	653,262	145,851	793,934	89,609	12,826	691,499
2027	2,977,343	777,546	1,440,458	191,175	(81,301)	649,465	145,851	790,137	206,451	0	583,686
2028	2,977,343	777,546	1,440,708	191,175	(80,739)	648,653	145,851	789,325	222,776	0	566,549
2029	2,977,343	777,546	1,440,975	191,175	(82,013)	649,660	145,851	790,332	182,529	0	607,803
2030	2,977,343	777,546	1,441,261	191,175	(86,226)	653,586	145,851	794,258	37,938	0	756,320
2031	2,977,343	777,546	1,441,566	191,175	(83,085)	650,141	145,851	790,813	150,359	0	640,454
2032	2,977,343	777,546	1,441,893	191,175	(83,308)	650,037	145,851	790,709	140,461	0	650,248
2033	2,977,343	777,546	1,442,241	191,175	(85,438)	651,819	145,851	792,491	62,747	0	729,744
2034	2,977,343	777,546	1,442,614	191,175	(86,048)	652,056	145,851	792,728	42,345	0	750,383
2035	2,977,343	777,546	1,443,012	191,175	(81,803)	647,412	145,851	788,084	189,603	0	598,481
2036	2,977,343	777,546	1,443,437	191,175	(85,141)	650,326	145,851	790,998	76,768	0	714,230
2037	2,977,343	777,546	1,443,891	191,175	(83,693)	648,423	145,851	789,095	120,905	0	668,190
2038	2,977,343	777,546	1,444,377	191,175	(86,835)	651,080	145,851	791,752	13,508	0	778,244
2039	2,977,343	777,546	1,444,895	191,175	(82,711)	646,438	145,851	787,110	157,084	0	630,026
2040	2,977,343	777,546	1,445,450	191,175	(87,176)	650,348	145,851	791,020	639	0	672,724
2041	2,977,343	777,546	1,446,043	191,175	(83,834)	646,413	145,851	787,085	118,296	0	728,533
2042	2,977,343	777,546	1,446,675	191,175	(85,499)	647,445	145,851	788,117	58,552	0	729,565
2043	2,977,343	777,546	1,447,352	191,175	(85,528)	646,798	145,851	787,470	54,742	0	732,728
2044	2,977,343	777,546	1,448,075	191,175	(85,153)	645,700	145,851	786,372	68,740	0	717,632
2045	2,977,343	777,546	1,448,846	191,175	(83,695)	643,471	145,851	784,143	119,819	0	664,324
2046	2,977,343	777,546	1,449,671	191,175	(79,075)	638,026	145,851	778,698	280,543	0	498,155
2047	2,977,343	777,546	1,450,552	191,175	(79,860)	637,930	145,851	778,602	243,904	0	534,698
2048	2,977,343	777,546	1,451,494	191,175	(81,153)	638,280	145,851	778,952	197,781	0	581,171
2049	2,977,343	777,546	1,452,501	191,175	(85,293)	641,415	145,851	782,087	58,206	0	723,881
2050	2,977,343	777,546	1,453,576	191,175	(84,561)	639,607	145,851	780,279	82,164	0	698,115
2051	2,977,343	777,546	1,454,724	191,175	(82,525)	636,423	145,851	777,095	156,524	0	620,571
2052	2,977,343	777,546	1,455,952	191,175	(81,369)	634,039	145,851	774,711	188,205	0	586,506
2053	2,977,343	777,546	1,457,264	191,175	(80,879)	632,236	145,851	772,908	206,728	0	566,180
2054	2,977,343	777,546	1,369,278	191,175	(89,201)	728,545	145,851	869,217	6,111	0	863,106
2055	2,977,343	777,546	1,102,221	191,175	(92,498)	998,899	145,851	1,139,571	157,679	0	981,892
2056	2,977,343	777,546	1,102,221	191,175	(94,184)	1,000,585	145,851	1,141,257	101,320	0	1,039,937
GENERATION TOTALS	196,511,987	46,222,684	110,515,935	11,955,059	5,248,695	22,569,614	9,738,600	32,003,711	11,199,883	727,141	18,586,139

1/CONSISTS OF DEPRECIATION PLUS ANY ACCOUNTING WRITE-OFFS INCLUDED IN EXPENSES.

2/MAY INCLUDE ADJUSTMENTS FOR ACCRUAL REVENUES OR OTHER ACCRUAL TO CASH CONSIDERATIONS.

3/CONSISTS OF AMORTIZATION ($1,650) AND DEFERRAL PAYMENT ($2,760).

4/CONSISTS OF AMORTIZATION ($1,342) AND DEFERRAL PAYMENT ($190,952).

5/REDUCED BY $15,000 OF REVENUE FINANCING.

3.4 Revenue Requirement Legal Requirements and Policies

This section summarizes:

- the statutory framework that guides the development of BPA's revenue requirements and the allocation of FCRPS costs among the various users of the system, and
- the repayment policies that BPA follows in the development of its revenue requirement.

Because this SN-03 proposal is not setting base rates as in a traditional rate case, not all of the policies and statutes are pertinent to this proceeding.

3.4.1 Development of BPA's Revenue Requirements. BPA's revenue requirements are governed by four main legislative acts: The Bonneville Project Act of 1937, P.L. No. 75-329, 50 Stat. 731; the Flood Control Act of 1944, P.L. No. 78-534, 58 Stat. 890, amended 1977; the Federal Columbia River Transmission System Act (Transmission System Act) of 1974, P.L. No. 93-454, 88 Stat. 1376; and the Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act), P.L. No. 96-501, 94 Stat. 2697. Other statutory provisions that guide the development of BPA's revenue requirements include the National Energy Policy Act of 1992 (NEPA-92), P.L. No. 102-486. 106 Stat. 2776; the Colville Settlement Act, P.L. No. 103-436, 108 Stat. 4577; and the Omnibus Consolidated Rescissions and Appropriations Act of 1996, P.L. No. 104-134, Stat. 132.

3.4.1.1 Legal Requirement Governing the FCRPS Revenue Requirement. BPA's rates must be set in a manner that ensures revenue levels sufficient to fully recover its costs. This requirement was first set forth in Section 7 of the Bonneville Project Act, 16 U.S.C. § 832f (amended 1977):

> *. . . Rate schedules shall be drawn having regard to the recovery (upon the basis of the application of such rate schedules to the capacity of the electric facilities of Bonneville project) of the cost of producing and transmitting such electric energy, including the amortization of the capital investment over a reasonable period of years . . .*

Development of the FCRPS revenue requirements is a critical component of meeting this ratemaking directive. Section 9 of the Transmission System Act, 16 U.S.C § 838g, also strongly reflects this cost recovery principle, providing that rates be set:

> *. . . at levels to produce such additional revenues as may be required, in the aggregate with all other revenues of the Administrator, to pay when due the principal of, premiums, discounts, and expenses in connection with the issuance of and interest on all bonds issued and outstanding pursuant to this Act, and amounts required to establish and maintain reserve and other funds and accounts established in connection therewith.*

Similar guidelines are provided in Section 7 of the Northwest Power Act, 16 U.S.C. § 839e. Section 7(a)(1), 16 U.S.C. § 839e(a)(1), provides:

> *The Administrator shall establish, and periodically review and revise, rates for the sale and disposition of electric energy and capacity and for the transmission of non-Federal power. Such rates shall be established and, as appropriate, revised to recover, in accordance with sound business principles, the cost associated with the acquisition, conservation, and transmission of electric power, including the amortization of the Federal investment in the Federal Columbia River Power System (including irrigation costs required to be repaid out of power revenues) over a reasonable period of years and the other costs and expenses incurred by the Administrator pursuant to this [Act] and other provisions of law. Such rates shall be established in accordance with Sections 9 and 10 of the Federal Columbia River Transmission System Act (16 U.S.C. §838), Section 5 of the Flood Control Act of 1944, and the provisions of this [Act].*

Recently enacted section 7(n) of the Northwest Power Act provides additional guidance regarding cost recovery for the FY 2002-2006 rate period, and preserves BPA's ability to establish appropriate reserves subsequent to FY 2006:

> *Notwithstanding any other provision of this section, rates established by the Administrator, under this section shall recover costs for protection, mitigation and enhancement of fish and wildlife, whether under the Pacific Northwest Electric Power Planning and Conservation Act or any other Act, not to exceed such amounts the Administrator forecasts will be expended during the fiscal year 2002-2006 rate period, while preserving the Administrator's ability to establish appropriate reserves and maintain a high Treasury payment probability for the subsequent rate period.*

The Northwest Power Act also makes it clear that a primary purpose of confirmation of BPA rates by FERC is to assure that the revenue requirement is adequate to assure timely U.S. Treasury repayment. Section 7(a)(2), 16 U.S.C. § 839e(a)(2), provides:

> Rates established under this section shall become effective only, except in the case of interim rules as provided in subsection (i)(6) of this section, upon confirmation and approval by the Federal Energy Regulatory Commission upon a finding by the Commission, that such rates:
>
> *(A)* *are sufficient to assure repayment of the Federal investment in the Federal Columbia River Power System over a reasonable number of years after first meeting the Administrator's other costs,*
>
> *(B)* *are based upon the Administrator's total system costs, and*
>
> *(C)* *insofar as transmission rates are concerned, equitably allocate the costs of the Federal transmission system between Federal and non-Federal power utilizing such system.*

In addition to reiterating and clarifying the cost recovery principle, the Northwest Power Act provided supplementary authority to sell bonds to the U.S. Treasury to finance BPA's new conservation and renewable resource programs. 16 U.S.C. § 838i. The NEPA-92 clarified BPA's authority to provide funds directly to the Corps and Reclamation for hydroelectric generation additions, improvements, and replacements, as well as O&M expenses. *See* P.L. No. 102-486, 1992 U.S. Code Cong. & Admin. News, 106 Stat. 2776. Other provisions that have particular relevance to the repayment of power costs can be found in the Reclamation Project Act of 1939 (codified as amended in scattered sections of 43 U.S.C.); the Grand Coulee

Dam-Third Powerplant Act of June 14, 1966, P.L. No. 89-448, 80 Stat. 200, authorizing construction of the Grand Coulee Dam Third Powerhouse; and P.L. No. 89-561, 80 Stat. 707, Act of September 7, 1966, which partially amended P.L. No. 89-48. The costs associated with these projects and programs, as well as the other costs incurred by the Administrator in furtherance of BPA's mission, are included in this Revenue Recovery chapter of the SN-03 Study.

3.4.1.2 Colville Settlement Act Credits. The Confederated Tribes of the Colville Reservation Grand Coulee Dam Settlement Act approves and ratifies the Settlement Agreement entered into by the United States and the Confederated Tribes of the Colville Reservation (Colville Tribes) related to the Colville's claims for a portion of the revenues from Grand Coulee Dam, and directs the BPA to carry out its obligations under the Settlement Agreement.

The Settlement Agreement obligates BPA to make annual payments to the Colville Tribes. Payments have been tied to both BPA's average prices and the amount of annual generation from Grand Coulee Dam. Under the Refinancing Act, part of the Omnibus Consolidated Rescissions and Appropriations Act of 1996, P.L. No. 104-13, 110 Stat. 1321, BPA receives annual credits from the U.S. Treasury against payments due the Treasury, in order to defray a portion of the costs of making payments to the Colville Tribes.

3.4.1.3 The BPA Appropriations Refinancing Act. As in the prior rate period, BPA's power rates for the FY 2002-2006 rate period will reflect the requirements of the Refinancing Act, part of the Omnibus Consolidated Rescissions and Appropriations Act of 1996, P.L. No. 104-134, 110 Stat. 1321, enacted in April 1996. The Refinancing Act required that unpaid principal on FCRPS appropriations (old capital investments) at the end of FY 1996 be reset at the present value of the principal and annual interest payments BPA would make to the U.S. Treasury for these obligations absent the Refinancing Act, plus $100 million. *Id*. at §3201(b). The Refinancing Act also specified that the new principal amounts of the old capital investments be assigned new interest rates from the U.S. Treasury yield curve prevailing at the time of the refinancing transaction. *Id*. at § 3201(e)(6)(A).

The Refinancing Act restricts prepayment of the new principal to $100 million during the first five years after the effective date of the financing. 6 U.S.C. § 8381(e). The Refinancing Act also specifies that repayment periods on new principal amounts may not be earlier than determined prior to the refinancing. *Id*. at § 8381(d).

The Refinancing Act specifies that the prevailing U.S. Treasury yield curve will be used to calculate interest during construction (IDC) and to assign interest rates to new capital investments funded by appropriations. 16 U.S.C. §8381(f). New capital investments are defined as capital investments funded by appropriations for a project placed in service after September 30, 1996. *Id*. at § 8381(a)(3). The IDC in each fiscal year of construction for new capital investments is the prevailing one-year Treasury rate. *Id*. at § 3201(f)(1). The IDC is capitalized and included in the principal. After the plant is completed, the principal amount is assigned an interest rate based on the Treasury yield curve prevailing in the year in which the plant is placed in service. *Id.* at § 3201(g).

The Treasury rate for new capital investments prescribed in the Refinancing Act is:

> *...a rate determined by the Secretary of the Treasury, taking into consideration prevailing market yields, during the month preceding the beginning of the fiscal year in which the [new investment] ... is placed in service, on outstanding interest-bearing obligations of the United States with periods to maturity comparable to the period between the beginning of the fiscal year and the repayment date for the new capital investment. 16 U.S.C. 8381(i).*

The Refinancing Act also directed the Administrator to offer to provide assurance in new or existing power, transmission, or related service contracts that the government would not increase the repayment obligations in the future. 16 U.S.C. § 8381(i). The Refinancing Act also amends the Colville Settlement Act to modify the amount and timing of certain credits that BPA takes against its annual cash transfers to Treasury.

3.4.2 Allocation of Federal Columbia River Power System (FCRPS) Costs. In addition to power production, the individual generating projects comprising the FCRPS serve other purposes, including navigation, irrigation, recreation, and flood control. The total costs of these Federal projects are generally allocated according to the purposes they serve.

For projects that provide power resources to the FCRPS, this allocation has generally been accomplished pursuant to statutory direction. For example, Section 7 of the Bonneville Project Act, 16 U.S.C. § 832(f), requires that BPA's rates be based, *inter alia*, on "an allocation of costs made by the [Secretary of Energy,]" and, insofar as costs of the Bonneville Project were concerned:

> *the [Secretary of Energy] may allocate to the costs of electric facilities such a share of the cost of facilities having joint value for the production of electric energy and other purposes as the power development may fairly bear as compared with other such purposes.*

Similar allocations for projects constructed pursuant to various Reclamation laws have been performed by the Secretary of the Interior under the authority of 43 U.S.C. §485h(a)-(b). Cost allocations for projects constructed by the Corps have also been performed by the Secretary of the Army and approved by the Federal Power Commission.

On a generic level, an attempt is made to allocate the specific cost of each feature of a multipurpose dam to the purpose it serves. For example, the costs of powerhouses, penstocks, and other specific power-related facilities have been allocated to power; whereas the costs of navigation locks have been allocated to navigation. More problematic are the joint-use costs that remain unallocated after the specific costs identifiable to a single purpose have been allocated. The joint-use formulas attempt to account for the relative benefits provided by each function and costs are allocated accordingly.

Thus, costs assigned to the power production functions include specific cost items whose sole purpose is power production and the "power production share" of joint costs assigned to more than one purpose. Both types of costs are included in BPA's power revenue requirement.

3.4.2.1 Section 4(h)(10)(C) Credits. Section 4(h)(10)(C) of the Northwest Power Act provides:

> *The Administrator shall use the Bonneville Power Administration fund and the authorities available to the Administrator under [the Northwest Power Act] and other laws administered by the Administrator to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries...16 U.S.C.* §*839b(h)(10)(A).*

BPA is not obligated to reimburse the U.S. Treasury for the non-power portion of these fish and wildlife costs. Such non-power costs are instead allocated to the various project purposes by the BPA Administrator, in consultation with the Corps and Reclamation, pursuant to section 4(h)(10)(C) of the Northwest Power Act. 16 U.S.C. § 839b(h)(10)(C). This allocation to various project purposes is intended to implement the principle that electric power consumers bear no greater share of the costs of fish and wildlife mitigation than the power portion of the project.

The legislative history of section 4(h)(10)(C) illustrates how the expenditures by the Administrator for protection, mitigation, and enhancement of fish and wildlife at individual Federal projects in excess of the portion allocable to electric consumers are to be treated as a credit for electric consumers. *See* H.R. Rep. No. 976, 96th Cong., 2d Sess., pt. 2 at 45 (1980), reprinted in 1980 U.S.C.C.A.N. 5989, 6011. This principle is satisfied by treating expenditures on behalf of non-power purposes as other project costs. These amounts are regarded as having been applied towards other project costs properly allocable to the power function and payable to the Treasury. Thus, BPA receives a credit against its cash transfers to the U.S. Treasury for expenditures attributable to other project purposes. The cost-sharing arrangements with the Administration implement the section 4(h)(10)(C) directives.

BPA's initial funding of all the costs for fish and wildlife has the advantage of avoiding the need for funding the non-power portion of these costs through the annual appropriations process.

3.4.2.2 Equitable Allocation of Transmission Costs. In an order dated January 27, 1984, *United States Department of Energy -- Bonneville Power Admin.*, 26 FERC 61,096 (1984), FERC directed BPA to, among other things, develop separate repayment studies for the generation and transmission functions of the FCRPS. The purpose of this requirement was to assist FERC in making the determination required under section 7(a)(2)(C) of the Northwest Power Act (16 U.S.C. § 839e(a)(2)(C)) that transmission costs be equitably allocated between Federal and non-Federal use of the transmission system. This requirement has given BPA a 15-year history of conducting separate repayment studies for the transmission and generation functions, which has enabled BPA to transition to a bifurcated rate-setting process with minimal change in repayment policy and development of the revenue requirement. Consistent with the decision to conduct bifurcated hearings for the transmission and generation functions, the

Revenue Recovery chapter incorporates only the separate repayment study for the generation function of the FCRPS for FY 2002-2006.

3.4.3 Repayment Requirements and Policies. The statutes do not include specific directives for scheduling repayment of the FCRPS capital appropriations and bonds issued to Treasury. The details of the repayment policy have largely been established through administrative interpretation of statutory requirements, with Congressional sanction.

There have been a number of changes in BPA's repayment policy over the years concurrent with expansion of the FCRPS and changing conditions. In general, current repayment criteria were first approved by the Secretary of the Interior on April 3, 1963. These criteria were refined and submitted to the Secretary and the Federal Power Commission (the predecessor agency to FERC) in support of BPA's rate filing in September 1965.

The repayment policy was presented to Congress for its consideration for the authorization of the Grand Coulee Dam Third Powerhouse in June 1966. The underlying theory of repayment was discussed in the House of Representatives' Report related to this authorization, H.R. Rep. No. 1409, 89th Cong., 2d Sess. 9-10 (1966). As stated in that report:

> *Accordingly, in a repayment study there is no annual schedule of capital repayment. The test of the sufficiency of revenues is whether the capital investment can be repaid within the overall repayment period established for each power project, each increment of investment in the transmission system, and each block of irrigation assistance. Hence, repayment may proceed at a faster or slower pace from year-to-year as conditions change.*
>
> *This approach to repayment scheduling has the effect of averaging the year-to-year variations in costs and revenues over the repayment period. This results in a uniform cost per unit of power sold, and permits the maintenance of stable rates for extended periods. It also facilitates the orderly marketing of power and permits Bonneville Power Administration's customers, which include both electric utilities and electro-process industries, to plan for the future with*

The Secretary of the Interior issued a statement of power policy on September 30, 1970, setting forth general principles that reaffirmed the repayment policy as previously developed. The most pertinent of these principles are set forth in the Department of the Interior Manual, Park 730, Chapter 1:

> *A.* *Hydroelectric power, although not a primary objective, will be proposed to Congress and supported for inclusion in multiple-purpose Federal projects when....it is capable of repaying its share of the Federal investment, including operation and maintenance costs and interest, in accordance with the law.*
>
> *B.* *Electric power generated at Federal projects will be marketed at the lowest rates consistent with sound financial management. Rates for the sale of Federal electric power will be reviewed periodically to assure their sufficiency to repay operating and maintenance costs and the capital investment within 50 years with interest that more accurately reflects the cost of money.*

To achieve a greater degree of uniformity in a repayment policy for all Department of Interior (DOI) power marketing agencies, the Deputy Assistant Secretary issued a memo on August 2, 1972, outlining: (1) a uniform definition of the commencement of the repayment period for a particular project; (2) the method for including future replacement costs in repayment studies; and (3) a provision that the investment or obligation bearing the highest interest rate shall be amortized first, to the extent possible, while still complying with the repayment period established for each increment of investment.

A further clarification of the repayment policy was outlined in a joint memo of January 7, 1974, from the Assistant Secretary for Reclamation and Assistant Secretary for Energy and Minerals. This memo states that in addition to meeting the overall objective of repaying the Federal investment or obligations within the prescribed repayment periods, revenues shall be adequate, except in unusual circumstances, to repay annually all costs for O&M, purchased power, and interest.

On March 22, 1976, the Department of Interior issued Chapter 4 of Part 730 of the DOI Manual to codify financial reporting requirements for the DOI's power marketing agencies. Included therein are standard policies and procedures for preparing system repayment studies.

BPA and other former DOI power marketing agencies were transferred to the newly established DOE on October 1, 1977. *See* DOE Organization Act, 42 U.S.C. § 7101 et seq. (1994). The DOE adopted the policies set forth in Part 730 of the DOI Manual by issuing Interim Management Directive No. 1701 on September 28, 1977, which subsequently was replaced by RA 6120.2 on September 20, 1979, as amended on October 1, 1983.

The repayment policy outlined in RA 6120.2, paragraph 12, provides that BPA's total revenues from all sources must be sufficient to:

1. Pay all annual costs of operating and maintaining the Federal power system;
2. Pay the cost each fiscal year of obtaining power through purchase and exchange agreements, the cost for transmission services, and other costs during the year in which such costs are incurred;
3. Pay interest each year on the unamortized portion of the commercial power investment financed with appropriated funds at the interest rates established for each generating project and for each annual increment of such investment in the BPA transmission system, except that recovery of annual interest expense may be deferred in unusual circumstances for short periods of time;
4. Pay when due the interest and amortization portion on outstanding bonds sold to the U.S. Treasury;
5. Repay:
    a. each dollar of power investments and obligations in the FCRPS generating projects within 50 years after the projects become revenue producing (50 years

has been deemed a "reasonable period" as intended by Congress, except for the Yakima-Chandler Project, which has a legislated amortization period of 66 years);

b. each annual increment of transmission financed by Federal investments and obligations within the average service life of such transmission facilities (currently 45 years) or within a maximum of 50 years, whichever is less (BPA has interpreted RA 6120.2 to require repayment of bonds sold to finance conservation to be within the average service lives of these projects, currently estimated to be 20 years, and for fish and wildlife facilities to be 15 years;

c. the federally financed amount of each replacement within its service life up to a maximum of 50 years; and

6. As required by P.L. No. 89-448, repay the portion of construction costs at Federal reclamation projects that is beyond the repayment ability of the irrigators, and which is assigned for repayment from commercial power revenues, within the same overall period available to the irrigation water users for making their payments on construction costs.

The typical repayment period for appropriated capital investments is 50 years from the year in which the plant is placed in service. The Refinancing Act overrides provisions in RA 6120.2 related to determining interest during construction and assigning interest rates to Federal investments financed by appropriations. This Act also contains provisions on repayment periods (due dates) for these investments. The Refinancing Act is discussed in section 3.4.1 of this chapter.

Irrigation costs are repaid without interest. P.L. No. 89-448 authorizes the payment of irrigation costs from revenues of the entire power system. This is consistent with the so-called "Basin Account" concept. P.L. No. 89-561, approved on September 7, 1966, amended P.L. No. 89-448, to provide several limitations on the repayment of irrigation costs from power revenues. These limitations are:

1. the irrigation costs are to be paid from "net revenues" of the power system, with net revenues defined as those revenues over and above the amount needed to cover power costs and previously authorized irrigation payments;
2. the construction of new Federal irrigation projects will be scheduled, *i.e.*, deferred, if necessary, so that the repayment of the irrigation costs from power revenues will not require an increase in the BPA power rate level; and
3. the total amount of irrigation costs to be repaid from power revenues shall not average more than $30 million per year in any period of 20 consecutive years.

In addition, other sections within RA 6120.2 require that any outstanding deferred interest payments must be repaid before any planned amortization payments are made. Also, repayments are to be made by amortizing those Federal investments and obligations bearing the highest interest rate first, to the extent possible, while still completing repayment of each increment of Federal investment and obligation within its prescribed repayment period.